1067-35-1377   **Qian Xu**, School of Mathematics, Capital Normal University, Beijing, Peoples Rep of China, **Xuefeng Wang*** (`xdw@math.tulane.edu`), Department of Mathematics, Tulane University, New Orleans, LA 70118, and **Yaping Wu**, School of Mathematics, Capital Normal University, Beijing, Peoples Rep of China. *Spiky steady states of chemotaxis systems via global bifurcation and Helly's compactness theorem.* Preliminary report.

The most important phenomenon about chemotaxis is the aggregation of "cells", for which we use spiky steady states to model. We carry out global bifurcation analysis on several variants of the Keller-Segel model, showing that positive steady states exist if the chemotaxis coefficient is large enough; then we use Helly's compactness theorem to obtain the asymptotics of these steady states as the chemotaxis coefficient tends to infinity, showing that they are spiky.

Compared to other methods, this one is much softer and simpler; however at this moment, the method works only in the case of 1D spatial domains. (Received September 20, 2010)